

## Author Index of Volume B29

- Antonisse, M.M.G., 312  
Aussenegg, F.R., 204  
Axelsson, L., 328
- Babnik, A., 428  
Bacarese-Hamilton, T., 79  
Bacci, M., 190  
Baker, M.E.J., 368  
Baldini, F., 164  
Balova, I.A., 324  
Baron, M.G., 358  
Bechi, P., 164  
Berger, A., 1  
Biernat, J.F., 148  
Binnie, T.D., 339  
Blum, L.J., 1  
Bock, D., 293  
Bousquet, D., 268  
Bracci, S., 164  
Bredehorst, R., 72  
Brenci, M., 115  
Brunner, H., 204  
Brzozka, Z., 374  
Burgess, L.W., 10  
Butler, T., 51
- Cado, A., 108  
Chambrier, I., 353  
Chomát, M., 416  
Citterio, D., 277  
Cook, M.J., 353  
Cosi, F., 164  
Coulet, P.R., 1  
Czerney, P., 392
- Dakin, J.P., 87  
Daniels, P.B., 79  
Dobrovolsky, A.A., 332  
Domenici, C., 300  
Draxler, S., 199  
Duréault, B., 345, 386  
Duveneck, G.L., 307  
Dybko, A., 374
- Eberhard, D., 423  
Ecke, W., 410  
Edwards, H.O., 87  
Ehrat, M., 307  
Engbersen, J.F.J., 312
- Fletcher, J.E., 79  
Fraatz, R.J., 246  
Freeborn, S.S., 339
- Freiner, D., 277  
Furlong, S.C., 67
- Gale, M.T., 277  
Galla, K., 293  
Gautier, S.M., 1  
Gehring, H., 174  
Göbel, R., 58  
Golden, J.P., 25  
Goushcha, A.O., 332  
Grasdepot, F., 363  
Greig, F., 339  
Gruber, W., 219  
Guzzi, D., 115
- Hampshire, V., 157  
Hannigan, J., 339  
Harris, R.D., 261  
Hartmann, P., 251  
Hattori, H., 318  
Haubenreisser, W., 410  
Hayer, M., 416  
He, H., 246  
Hegarty, J., 101  
Hesselink, G.L.J., 312  
Hisamoto, H., 378  
Hodgson, P., 339  
Holst, G.A., 231  
Homola, J., 401  
Horn, A.B., 353  
Huesmann, H., 148
- Imasaka, T., 135
- Johnston, E.M., 339
- Karymov, M.A., 324  
Kašik, I., 416  
Katzir, A., 58  
Kawabata, Y., 135  
Kellner, R., 58  
Kevorkian, A., 406  
Kitazaki, Y., 135  
Klee, B., 307  
Klimant, I., 219, 240  
Köster, T., 231  
Krska, R., 58  
Kruchinin, A.A., 324  
Kühner, G., 423  
Kunz, R.E., 277  
Kusterbeck, A.W., 72
- Lakowicz, J.R., 16
- Lambeck, P.V., 312  
Lehmann, H., 392, 410  
Leiner, M.J.P., 169, 246, 251  
Leitner, A., 204  
Lévy, Y., 268  
Ligler, F.S., 25, 72  
Lippitsch, M.E., 199, 251, 410  
Lobmaier, C., 204  
Love, W.F., 67  
Lukosz, W., 37  
Lübbbers, D.W., 231
- Maack, J., 148  
MacCraith, B.D., 51, 226  
Maciejewski, J., 374  
MacKenzie, H.A., 339  
Marazuela, M.D., 126  
Martin, F., 268  
Martin, M., 293  
Martini, M., 300  
Mascini, M., 121  
Matějec, V., 416  
McDonagh, C.M., 51, 226  
McEvoy, A.K., 51, 226  
McGilp, J.F., 226  
McShane, M., 157  
Meier, B., 240  
Mencaglia, A., 115  
Mennucci, A., 300  
Michel, P.E., 1  
Mignani, A.G., 115  
Milot, M.C., 268  
Miyashita, N., 378  
Mizaikoff, B., 58  
Möbius, D., 148  
Mohr, G.J., 392  
Moreno Bondi, M.C., 126  
Motellier, S., 345  
Možina, J., 428
- Nahm, W., 174  
Nakagawa, E., 378  
Nakagawa, M., 94  
Narayanan, N., 25  
Narayanaswamy, R., 358, 368  
Netto, E.J., 157  
Noiré, M.H., 345, 386
- O'Gorman, J., 101  
O'Keeffe, G., 51, 226  
O'Neill, P.M., 79

- Orellana, G., 126  
Oroszlan, P., 307
- Papkovsky, D.B., 213  
Parriaux, O., 289  
Patonay, G., 25  
Peacock, S.J., 108  
Persegol, D., 406  
Peterson, J.I., 157  
Phelan, P., 101  
Pieraccini, M., 115  
Pitsch, H., 345  
Pittner, F., 204  
Popma, T., 312  
Pospíšilová, M., 416  
Privalko, A.V., 332  
Pucciani, F., 164
- Quan, K.M., 339
- Raabe, D., 410  
Rabbany, S.Y., 72  
Rehn, M.M., 246  
Rehouma, F., 406  
Reinhoudt, D.N., 312  
Reininger, F., 219  
Remisova, L.A., 324  
Rivalle, V., 108
- Robinson, G., 31  
Romaniuk, R.S., 374  
Russell, D.A., 353
- Schalkhammer, T., 204  
Schwotzer, G., 392  
Sébille, B., 268  
Seeger, S., 293  
Sheridan, F.R., 51  
Shriver-Lake, L.C., 25  
Silveira, J.P., 363  
Simpson, T.R.E., 353  
Sixt, P., 289  
Slovacek, R.E., 67  
Smith, A.M., 108  
Spichiger, U.E., 277  
Stafford, C.G., 79  
Steiner, K., 423  
Stella, R., 300  
Suhadolnik, A., 428  
Sushko, V.I., 332  
Suzuki, K., 378  
Szmecinski, H., 16
- Tacke, M., 58  
Taga, K., 58  
Takeo, T., 318  
Tanbun-Ek, T., 101
- Tarantov, Y., 324  
Thorpe, S.C., 353, 358  
Trettnak, W., 219  
Tusa, J.K., 246
- van de Bovenkamp, H.J., 312  
Vlasov, Y., 324  
Vo-Dinh, T., 183  
Voges, E., 231
- Wagner, E., 423  
Watanabe, K., 378  
Weigl, B.H., 87  
Weldon, V., 101  
Werner, T., 240  
Widmer, H.M., 307  
Wilkinson, J.S., 261  
Willsch, R., 410  
Wolfbeis, O.S., 140, 240  
Wolfrum, J., 293  
Wright, J.D., 108  
Wroblewski, W., 374
- Yamamoto, N., 378  
Yamashiro, T., 135  
Yatsenko, V.A., 332

## Subject Index of Volume B29

- Absorption**  
absorption-based sensors, 10
- Absorption-based gas sensing**  
new signal processing for absorption-based gas sensing, 363
- Admittance analysis**  
frequency-dependent admittance analysis on amorphous silicon photodetectors for integrated optical waveguides, 423
- Atmospheric pollution**  
the use of Fourier transform combined with the differential optical absorption technique to measure atmospheric pollution, 328
- Azo-phanes**  
molecular *cis/trans* isomerization of an azobenzene containing 13-azo-phane-3 in monolayer, 148
- Biochemical sensors**  
integrated optical chemical and direct biochemical sensors, 37
- Biological analysis**  
SERS chemical sensors and biosensors: new tools for environmental and biological analysis, 183
- Biosensors**  
multicomponent organized bioactive layers for fiber-optic luminescent sensors, 1  
response of a thermo-optical photometer for biosensor applications, 300  
sol-gel coatings for optical chemical sensors and biosensors, 51
- Blood gas analysis**  
optical sensors for in vitro blood gas analysis, 169
- Blood spectrum**  
non-invasive in vivo measurement of blood spectrum by time-resolved near-infrared spectroscopy, 174
- Brewster reflectivity**  
molecular *cis/trans* isomerization of an azobenzene containing 13-azo-phane-3 in monolayer, 148
- Calcium**  
ion sensing film optodes: disposable ion sensing probes for the determination of  $\text{Na}^+$ ,  $\text{K}^+$ ,  $\text{Ca}^{2+}$  and  $\text{Cl}^-$  concentrations in serum, 378
- Calixarene**  
optode for 2-phenethylamine using calixarene as host molecule, 135
- Carbon dioxide sensors**  
enhanced performance of a fibre-optic luminescence  $\text{CO}_2$  sensor using carbonic anhydrase, 126  
 $\text{H}_2\text{S}$  and  $\text{CO}_2$  gas sensing using DFB laser diodes emitting at  $1.57 \mu\text{m}$ , 101
- Carbonic anhydrase**  
enhanced performance of a fibre-optic luminescence  $\text{CO}_2$  sensor using carbonic anhydrase, 126
- Chalcogenides**  
infrared fiber-optical chemical sensors with reactive surface coatings, 58
- Chemical sensors**  
absorption-based sensors, 10  
infrared fiber-optical chemical sensors with reactive surface coatings, 58  
integrated optical chemical and direct biochemical sensors, 37  
sol-gel coatings for optical chemical sensors and biosensors, 51
- Chemiluminescence**  
a new chemiluminescence-based sensor for discriminating and determining constituents in mixed gases, 94
- Chlorinated hydrocarbons in aqueous solution**  
infrared fiber-optical chemical sensors with reactive surface coatings, 58
- Chlorine**  
ion sensing film optodes: disposable ion sensing probes for the determination of  $\text{Na}^+$ ,  $\text{K}^+$ ,  $\text{Ca}^{2+}$  and  $\text{Cl}^-$  concentrations in serum, 378
- Chlorine gas**  
a kineto-optical method for the determination of chlorine gas, 358
- Chlorofluorohydrocarbons**  
infrared fiber-optical chemical sensors with reactive surface coatings, 58
- Clay interstitial water**  
pH determination of clay interstitial water using a fiber-optic sensor, 345
- Controlled surface-interaction length**  
a new fabrication method for waveguides with controlled surface-interaction length, 406
- Correlation spectroscopy**  
progress with optical gas sensors using correlation spectroscopy, 87
- Creatine kinase form MB**  
application of a plastic evanescent-wave sensor to immunological measurements of CKMB, 67
- Crown ether**  
molecular *cis/trans* isomerization of an azobenzene containing 13-azo-phane-3 in monolayer, 148
- Cysteamine**  
a reactive macromolecular matrix for protein immobilization on a gold surface. Application in surface plasmon resonance, 268
- Decay time**  
pH sensors using fluorescence decay time, 199
- Diode laser**  
use of diode lasers in an evanescent wave immunosensor for stationary and time-resolved detection of antigens, 293
- Distributed feedback laser diodes**  
 $\text{H}_2\text{S}$  and  $\text{CO}_2$  gas sensing using DFB laser diodes emitting at  $1.57 \mu\text{m}$ , 101
- Differential optical absorption**  
the use of Fourier transform combined with the differential optical absorption technique to measure atmospheric pollution, 328

- DNA fixation
  - fixation of DNA directly on optical waveguide surfaces for molecular probe biosensor development, 324
- Dynamic quenching
  - FLOX—an oxygen-flux-measuring system using a phase-modulation method to evaluate the oxygen-dependent fluorescence lifetime, 231
- Envelope detector
  - FLOX—an oxygen-flux-measuring system using a phase-modulation method to evaluate the oxygen-dependent fluorescence lifetime, 231
- Environmental analysis
  - SERS chemical sensors and biosensors: new tools for environmental and biological analysis, 183
- Enzyme-based biosensors
  - enzyme-based optical-fibre biosensors, 121
- Enzyme-based sensors
  - enhanced performance of a fibre-optic luminescence CO<sub>2</sub> sensor using carbonic anhydrase, 126
- Evanescent field
  - phase-sensitive polarimetric sensing in the evanescent field of single-mode fibres, 410
- Evanescent-wave sensing
  - optical fiber with novel geometry for evanescent-wave sensing, 416
- Evanescent-wave sensors
  - application of a plastic evanescent-wave sensor to immunological measurements of CKMB, 67
  - use of diode lasers in an evanescent wave immunosensor for stationary and time-resolved detection of antigens, 293
- Fabrication
  - a new fabrication method for waveguides with controlled surface-interaction length, 406
- Ferrous ion optical sensor
  - a ferrous ion optical sensor based on fluorescence quenching, 386
- Fiber-optic biosensors
  - use of three longer-wavelength fluorophores with the fiber-optic biosensor, 25
- Fiber-optic luminescent sensors
  - multicomponent organized bioactive layers for fiber-optic luminescent sensors, 1
- Fiber-optic pH meter
  - fiber-optic pH meter using NIR dye, 392
- Fiber-optic refractometer
  - quantitative evaluation of skin surface lipids by a fiber-optic refractometer, 318
- Fiber-optic sensor
  - pH determination of clay interstitial water using a fiber-optic sensor, 345
- Fibre optics
  - a fiber-optic broad-range pH sensor system for gastric measurements, 157
  - fibre optics applications to works of art, 190
  - new oxygen sensors and their application to biosensing, 213
  - non-invasive in vivo measurement of blood spectrum by time-resolved near-infrared spectroscopy, 174
  - the commercial development of planar optical biosensors, 31
- Flow immunosensors
  - binding kinetics of immobilized antibodies in a flow immunosensor, 72
- Fluorescence
  - pH sensors using fluorescence decay time, 199
- Fluorescence-based ion sensing
  - fluorescence-based ion sensing using potential-sensitive dyes, 140
- Fluorescence capillary fill device
  - use of an optical biosensor to measure prostate-specific antigen in whole blood, 79
- Fluorescence quenching
  - a ferrous ion optical sensor based on fluorescence quenching, 386
- Fluorophores
  - use of three longer-wavelength fluorophores with the fiber-optic biosensor, 25
- Flux measurement
  - FLOX—an oxygen-flux-measuring system using a phase-modulation method to evaluate the oxygen-dependent fluorescence lifetime, 231
- Fourier transform
  - the use of Fourier transform combined with the differential optical absorption technique to measure atmospheric pollution, 328
- Fourier transform infrared spectroscopy
  - infrared fiber-optical chemical sensors with reactive surface coatings, 58
- Gas analysis
  - infrared fiber-optical chemical sensors with reactive surface coatings, 58
- Gas sensing
  - formation and characterisation of a self-assembled phthalocyanine monolayer suitable for gas sensing, 353
- Gas sensors
  - a new chemiluminescence-based sensor for discriminating and determining constituents in mixed gases, 94
  - progress with optical gas sensors using correlation spectroscopy, 87
- Gastric measurements
  - a fiber-optic broad-range pH sensor system for gastric measurements, 157
- Gastro-oesophageal measurements
  - in vivo optical-fibre pH sensor for gastro-oesophageal measurements, 164
- Grating coupled evanescent wave immunosensor
  - sensitivity optimization of a grating coupled evanescent wave immunosensor, 289
- Hydrogen sulfide sensors
  - H<sub>2</sub>S and CO<sub>2</sub> gas sensing using DFB laser diodes emitting at 1.57  $\mu$ m, 101
- Identification
  - intelligent sensor for integral estimation of water quality, 332
- Immobilised indicator
  - the modelling and control of the pH response of an immobilised indicator, 368
- Immobilized antibodies
  - binding kinetics of immobilized antibodies in a flow immunosensor, 72
- Immobilized dye
  - development of a LED-based phase fluorimetric oxygen sensor using evanescent wave excitation of a sol-gel immobilized dye, 226
- Immunological sensors
  - application of a plastic evanescent-wave sensor to immunological measurements of CKMB, 67

- Immunosensors**  
a reactive macromolecular matrix for protein immobilization on a gold surface. Application in surface plasmon resonance, 268  
sensitivity optimization of a grating coupled evanescent wave immunosensor, 289  
the commercial development of planar optical biosensors, 31
- Infrared fiber optics**  
infrared fiber-optical chemical sensors with reactive surface coatings, 58
- Integrated optical sensors**  
integrated optical chemical and direct biochemical sensors, 37  
integrated optical sensors based on refractometry of ion-selective membranes, 277
- Integrated optical waveguides**  
frequency-dependent admittance analysis on amorphous silicon photodetectors for integrated optical waveguides, 423
- Integrated optics**  
the commercial development of planar optical biosensors, 31
- Intelligent sensors**  
intelligent sensor for integral estimation of water quality, 332
- Ion sensing film optodes**  
ion sensing film optodes: disposable ion sensing probes for the determination of  $\text{Na}^+$ ,  $\text{K}^+$ ,  $\text{Ca}^{2+}$  and  $\text{Cl}^-$  concentrations in serum, 378
- Ion-selective membranes**  
integrated optical sensors based on refractometry of ion-selective membranes, 277
- Kineto-optical method**  
a kineto-optical method for the determination of chlorine gas, 358
- Langmuir-Blodgett**  
new oxygen sensors and their application to biosensing, 213
- Lifetime-based sensing**  
fluorescence lifetime-based sensing and imaging, 16  
new oxygen sensors and their application to biosensing, 213
- Light reflection**  
molecular *cis/trans* isomerization of an azobenzene containing 13-azo-phane-3 in monolayer, 148
- Light-emitting diodes**  
development of a LED-based phase fluorimetric oxygen sensor using evanescent wave excitation of a sol-gel immobilized dye, 226
- Lipid membranes**  
a model system for the development of an optical biosensor based on lipid membranes and membrane-bound receptors, 307
- Luminescence**  
new oxygen sensors and their application to biosensing, 213  
novel oxygen sensor material based on a ruthenium bipyridyl complex encapsulated in zeolite Y: dramatic differences in the efficiency of luminescence quenching by oxygen on going from surface-adsorbed to zeolite-encapsulated fluorophores, 240  
response characteristics of luminescent oxygen sensors, 251
- Luminescence sensors**  
enhanced performance of a fibre-optic luminescence  $\text{CO}_2$  sensor using carbonic anhydrase, 126
- Macrocyclic synthetic receptors**  
optical detection of complexation of labeled saccharides to macrocyclic synthetic receptors, 312
- Membrane-bound receptors**  
a model system for the development of an optical biosensor based on lipid membranes and membrane-bound receptors, 307
- Microcirculation**  
FLOX—an oxygen-flux-measuring system using a phase-modulation method to evaluate the oxygen-dependent fluorescence lifetime, 231
- Modelling**  
the modelling and control of the pH response of an immobilised indicator, 368
- Molecular probe biosensor**  
fixation of DNA directly on optical waveguide surfaces for molecular probe biosensor development, 324
- Monofilm**  
molecular *cis/trans* isomerization of an azobenzene containing 13-azo-phane-3 in monolayer, 148
- Multicomponent bioactive layers**  
multicomponent organized bioactive layers for fiber-optic luminescent sensors, 1
- NIR dye**  
fiber-optic pH meter using NIR dye, 392
- Nitrogen dioxide sensors**  
effects of nitrogen dioxide on surface plasmon resonance of substituted phthalocyanine films, 108
- Novel geometry**  
optical fiber with novel geometry for evanescent-wave sensing, 416
- Oil contamination**  
application of pulsed laser photoacoustic sensors in monitoring oil contamination in water, 339
- Optical biosensor**  
a model system for the development of an optical biosensor based on lipid membranes and membrane-bound receptors, 307
- Optical biosensors**  
the commercial development of planar optical biosensors, 31  
use of an optical biosensor to measure prostate-specific antigen in whole blood, 79
- Optical detection of complexation**  
optical detection of complexation of labeled saccharides to macrocyclic synthetic receptors, 312
- Optical gas sensing**  
selection of silicone polymer matrix for optical gas sensing, 246
- Optical sensors**  
a ferrous ion optical sensor based on fluorescence quenching, 386  
optical sensors for in vitro blood gas analysis, 169  
progress with optical gas sensors using correlation spectroscopy, 87  
recent progress in optical oxygen sensor instrumentation, 219  
the metal island coated swelling polymer over mirror system (MICSPOMS): a new principle for measuring ionic strength, 204
- Optical waveguide sensors**  
fixation of DNA directly on optical waveguide surfaces for molecular probe biosensor development, 324
- Optical fiber sensor**  
optical fiber sensor based on surface plasmon excitation, 401
- Optical fibers**  
optical fiber reflection refractometer, 428  
optical fiber with novel geometry for evanescent-wave sensing, 416  
quasi-monodisperse particulate characterization with optical fibers and a three-wavelength scattering technique, 115

- Optical fibres
  - application of optical fibres in oxidation–reduction titrations, 374
  - in vivo optical-fibre pH sensor for gastro–oesophageal measurements, 164
- Optical-fibre biosensors
  - enzyme-based optical-fibre biosensors, 121
- Oxidation–reduction titrations
  - application of optical fibres in oxidation–reduction titrations, 374
- Oxygen sensors
  - development of a LED-based phase fluorimetric oxygen sensor using evanescent wave excitation of a sol–gel immobilized dye, 226
  - FLOX—an oxygen-flux-measuring system using a phase-modulation method to evaluate the oxygen-dependent fluorescence lifetime, 231
  - new oxygen sensors and their application to biosensing, 213
  - novel oxygen sensor material based on a ruthenium bipyridyl complex encapsulated in zeolite Y: dramatic differences in the efficiency of luminescence quenching by oxygen on going from surface-adsorbed to zeolite-encapsulated fluorophores, 240
  - recent progress in optical oxygen sensor instrumentation, 219
  - response characteristics of luminescent oxygen sensors, 251
  - selection of silicone polymer matrix for optical gas sensing, 246
- Particulate characterization
  - quasi-monodisperse particulate characterization with optical fibers and a three-wavelength scattering technique, 115
- Pattern recognition
  - intelligent sensor for integral estimation of water quality, 332
- pH determination
  - pH determination of clay interstitial water using a fiber-optic sensor, 345
- pH meter
  - fiber-optic pH meter using NIR dye, 392
- pH response
  - the modelling and control of the pH response of an immobilised indicator, 368
- pH sensing
  - the metal island coated swelling polymer over mirror system (MICSPOMS): a new principle for measuring ionic strength, 204
- pH sensors
  - a fiber-optic broad-range pH sensor system for gastric measurements, 157
  - in vivo optical-fibre pH sensor for gastro–oesophageal measurements, 164
  - pH sensors using fluorescence decay time, 199
- Phase modulation
  - FLOX—an oxygen-flux-measuring system using a phase-modulation method to evaluate the oxygen-dependent fluorescence lifetime, 231
- Phase fluorimetry
  - development of a LED-based phase fluorimetric oxygen sensor using evanescent wave excitation of a sol–gel immobilized dye, 226
- Phase-sensitive polarization sensing
  - phase-sensitive polarimetric sensing in the evanescent field of single-mode fibres, 410
- 2-Phenethylamine
  - optode for 2-phenethylamine using calixarene as host molecule, 135
- Phosphorescence
  - new oxygen sensors and their application to biosensing, 213
- Photoinduced Z/E isomerization
  - molecular *cis/trans* isomerization of an azobenzene containing 13-azo-phane-3 in monolayer, 148
- Photopolymers
  - the metal island coated swelling polymer over mirror system (MICSPOMS): a new principle for measuring ionic strength, 204
- Photostationary states
  - molecular *cis/trans* isomerization of an azobenzene containing 13-azo-phane-3 in monolayer, 148
- Photosynthesizing objects
  - intelligent sensor for integral estimation of water quality, 332
- Phthalocyanine monolayer
  - formation and characterisation of a self-assembled phthalocyanine monolayer suitable for gas sensing, 353
- Phthalocyanine films
  - effects of nitrogen dioxide on surface plasmon resonance of substituted phthalocyanine films, 108
- Planar optical structures
  - the commercial development of planar optical biosensors, 31
- Porphyrins
  - new oxygen sensors and their application to biosensing, 213
- Potassium
  - ion sensing film optodes: disposable ion sensing probes for the determination of Na<sup>+</sup>, K<sup>+</sup>, Ca<sup>2+</sup> and Cl<sup>−</sup> concentrations in serum, 378
- Potential-sensitive dyes
  - fluorescence-based ion sensing using potential-sensitive dyes, 140
- Prostate cancer
  - use of an optical biosensor to measure prostate-specific antigen in whole blood, 79
- Pulsed laser photoacoustic sensors
  - application of pulsed laser photoacoustic sensors in monitoring oil contamination in water, 339
- Rabbit immunoglobulin G
  - a reactive macromolecular matrix for protein immobilization on a gold surface. Application in surface plasmon resonance, 268
- Reactive polymer
  - a reactive macromolecular matrix for protein immobilization on a gold surface. Application in surface plasmon resonance, 268
- Refractometry
  - integrated optical sensors based on refractometry of ion-selective membranes, 277
- Reflection refractometer
  - optical fiber reflection refractometer, 428
- Ruthenium bipyridyl complex
  - novel oxygen sensor material based on a ruthenium bipyridyl complex encapsulated in zeolite Y: dramatic differences in the efficiency of luminescence quenching by oxygen on going from surface-adsorbed to zeolite-encapsulated fluorophores, 240
- Saccharides
  - optical detection of complexation of labeled saccharides to macrocyclic synthetic receptors, 312
- Scattering techniques
  - quasi-monodisperse particulate characterization with optical fibers and a three-wavelength scattering technique, 115
- Self-assembled monolayer
  - formation and characterisation of a self-assembled phthalocyanine monolayer suitable for gas sensing, 353
- Sensitivity optimization
  - sensitivity optimization of a grating coupled evanescent wave immunosensor, 289

## SERS sensors

SERS chemical sensors and biosensors: new tools for environmental and biological analysis, 183

## Serum

ion sensing film optodes: disposable ion sensing probes for the determination of  $\text{Na}^+$ ,  $\text{K}^+$ ,  $\text{Ca}^{2+}$  and  $\text{Cl}^-$  concentrations in serum, 378

## Signal processing

new signal processing for absorption-based gas sensing, 363

## Silicon photodetectors

frequency-dependent admittance analysis on amorphous silicon photodetectors for integrated optical waveguides, 423

## Silicone polymer matrix

selection of silicone polymer matrix for optical gas sensing, 246

## Silver halide

infrared fiber-optical chemical sensors with reactive surface coatings, 58

## Skin surface lipids

quantitative evaluation of skin surface lipids by a fiber-optic refractometer, 318

## Sodium

ion sensing film optodes: disposable ion sensing probes for the determination of  $\text{Na}^+$ ,  $\text{K}^+$ ,  $\text{Ca}^{2+}$  and  $\text{Cl}^-$  concentrations in serum, 378

## Sol-gel

development of a LED-based phase fluorimetric oxygen sensor using evanescent wave excitation of a sol-gel immobilized dye, 226

## Sol-gel coatings

sol-gel coatings for optical chemical sensors and biosensors, 51

## Spectroscopy

fibre optics applications to works of art, 190

non-invasive in vivo measurement of blood spectrum by time-resolved near-infrared spectroscopy, 174

SERS chemical sensors and biosensors: new tools for environmental and biological analysis, 183

## Sulfur dioxide

new oxygen sensors and their application to biosensing, 213

## Surface charge density

molecular *cis/trans* isomerization of an azobenzene containing 13-azo-phane-3 in monolayer, 148

## Surface plasmon excitation

optical fiber sensor based on surface plasmon excitation, 401

## Surface plasmon resonance

effects of nitrogen dioxide on surface plasmon resonance of substituted phthalocyanine films, 108

## Surface plasmon resonance sensors

a reactive macromolecular matrix for protein immobilization on a gold surface. Application in surface plasmon resonance, 268

waveguide surface plasmon resonance sensors, 261

## Surface potential

molecular *cis/trans* isomerization of an azobenzene containing 13-azo-phane-3 in monolayer, 148

## Thermo-optical photometer

response of a thermo-optical photometer for biosensor applications, 300

## Time-resolved fluorescence spectroscopy

fluorescence lifetime-based sensing and imaging, 16

## Time-resolved immunoassay

use of diode lasers in an evanescent wave immunosensor for stationary and time-resolved detection of antigens, 293

## Water monitoring

intelligent sensor for integral estimation of water quality, 332

## Waveguides

a new fabrication method for waveguides with controlled surface-interaction length, 406

## Works of art

fibre optics applications to works of art, 190

## Zeolites

novel oxygen sensor material based on a ruthenium bipyridyl complex encapsulated in zeolite Y: dramatic differences in the efficiency of luminescence quenching by oxygen on going from surface-adsorbed to zeolite-encapsulated fluorophores, 240

